

CLAIMS:

1. An improved chemical mechanical planarization process involving the use of a polishing pad in conjunction with an abrasive slurry to wear down surface topographies in a dielectric layer of an integrated circuit workpiece, the improvement comprising:

the step of employing a non-cellular lapping pad in lieu of a cellular polishing pad.

2. A system for polishing the surface of a workpiece, comprising:

a fixture for mounting said workpiece to thereby expose a first surface of said workpiece;

a second fixture for mounting a polishing pad movable into contact with said first surface of said workpiece under pressure in the presence of an abrasive slurry; and

a substantially flat, non-cellular polishing pad disposed in said second fixture.

3. A process for polishing substantially flat workpiece surfaces, comprising the steps of:

providing a substantially, non-cellular polishing pad;

applying said pad under pressure to said workpiece surface in the presence of a chemical mechanical polishing slurry; and

relatively moving said pad with respect to said workpiece surface along a plurality of directions within the plane defined by the mating surface between said pad and said workpiece.